THE EDDY-LEA ENERGY ALLIANCE, LLC
GLOBAL NUCLEAR ENERGY PARTNERSHIP
Award Number: DE-FG07-07ID14799
City of Carlsbad Public Participation Meeting
Pecos River Conference Center
March 28th, 2007
6:00p.m

Carlsbad, New Mexico, located in Eddy County, was the third location of four for Public Participation Meetings (PPM) held by the Eddy-Lea Energy Alliance, LLC (ELEA). The purpose of the meetings are to solicit public opinion regarding the Global Nuclear Energy Partnership (GNEP) siting-study, as well as to provide specific information regarding both program and site-specific aspects of the GNEP process and to address the local stakeholder concerns, issues, and values.

Public Notice and Public Outreach

Public advertisement appeared in the *Carlsbad Current Argus* daily newspaper March 25th and 27th. Legal notices were published on March 18th, 25th, and 27th (*See Attachment A*). In addition, direct telephone and electronic mail communications were made with Eddy County, Lea County, Hobbs, and Carlsbad local elected and appointed officials and members of the state legislative delegation from the involved areas. Shoats and Weaks, the ELEA Communications lead, placed telephone calls to approximately 130 citizens identified from a list of local citizens provided by Carlsbad Mayor Bob Forrest (*See Attachment B*). There were 83 individuals in attendance at the public hearing, with 63 signing in and providing contact information (*See Attachment C*). The meeting was held at the Pecos River Conference Facility, a publicly owned and managed center that is ADA compliant.

The Public Participation Meeting

ELEA requested that the communications team customize the PPM agenda to each community, ensuring that surrounding and impacted communities are well informed and have an opportunity to participate. Each PPM is transcribed and a Spanish translator was in attendance for anyone requiring translation services. The agenda for the Carlsbad PPM addressed the ELEA objectives for the City of Carlsbad and Eddy County specifically (*See Attachment D*). Ms. Marla Shoats of Shoats & Weaks opened the meeting by summarizing the agenda and introducing the presenters, including Mayor Forrest and Commissioner Whitlock. Attendees were welcomed and given an overview of ELEA by Bob Forrest, Mayor of Carlsbad, and Janelle Whitlock, Eddy County Commission Chairperson. Mayor Forrest provided a historical perspective of the development of ELEA utilizing a Power Point presentation (*See Attachment E*). The first slide depicted the 25% ownership breakdown between the four partners of the LLC: Eddy County, Lea County, the City of Hobbs, and the City of Carlsbad. He further emphasized the commitment and collaboration present among all four entities and how they have each, equally, invested their commitment to the GNEP project. The subsequent slide emphasized the leadership positions and community involvement of the ELEA Board members: Alliance Chairs Johnny Cope (Lea) and Mayor Bob Forrest (Carlsbad), Secretary Jim Maddox (Hobbs), and Treasurer Janelle Whitlock (Eddy). The community leadership,

strength, and commitment of the alternate members for the Alliance board [Former Chairman of the Lea County Board of Commissioners Harry Teague (Lea), State Representative and Chairperson of Radioactive and Hazardous Materials Committee John Heaton (Carlsbad), Mayor Monty Newman (Hobbs), and County Manager Steve Massey (Eddy)] illustrate the depth of strength the Alliance board holds. The community was also introduced to the ELEA Team: Principle Investigator, Dr. Mark Turnbough; communications consultant Shoats and Weaks; Gordon Environmental; corporate partners AREVA and WGI. The attendees were then shown the final slide that detailed the ELEA/GNEP site located approximately halfway between Hobbs and Carlsbad on U.S. Highway 62/180 (the WIPP Route).

Both Mayor Forrest and Commissioner Whitlock expressed their pleasure at having ELEA being selected as a possible site for GNEP and graciously welcomed the PPM attendees. They also lauded the uniqueness of the bi-county effort and the cooperative nature of the ELEA partnership. They noted that the membership of ELEA represented the elected and community leadership of the involved communities and the involved political jurisdictions. Mayor Forrest pointed out that Carlsbad was experienced in dealing with Department of Energy projects and noted the success and safety of the Waste Isolation Pilot Plant (WIPP) and the very positive and productive partnership that the City of Carlsbad and the community has with the WIPP and its contractors. Mayor Forrest also complimented Lea County officials and the communities of Hobbs and Eunice in the successful handling of the LES project. The Mayor further noted that the projects are examples of the experience and synergy of the communities and individuals involved with the ELEA and are excellent reasons why the ELEA should be highly regarded in consideration for the GNEP site. Commissioner Whitlock stated that the support of the Eddy County Commission for the GNEP was unanimous. She indicated that the ELEA site was the best location due to the characterization, community support, and the quality of the ELEA team. In addition, she further emphasized the community's experience with the WIPP project and that the Department of Energy's historic involvement in the community was an additional asset. Following the Mayor and Commissioner the agenda included presentations from Bob Keherman from Washington Group International, Sunita Kumar from AREVA, and Dr. Mark Turnbough, Principal Investigator on behalf of ELEA's GNEP proposal.

The Corporate Partnership

Bob Kehrman, Washington Group International (WGI), gave a history and overview of WGI. Mr. Kehrman explained that WGI employed over 25,000 people and operated in 40 states and over 30 counties. The corporation has vast experience in energy and environmentally related concerns including WIPP and was integrally involved in the development of the Washington TRU Solutions transportation project, management of WIPP operations, and securing the remote-handled permit. WGI's safety record at WIPP as well as other projects and programs internationally is excellent. There are three units of WGI presently in operation in Carlsbad: Washington Environmental and Regulatory Services, Engineering Products Division, and Washington TruSolutions. WGI is also presently involved in the development and construction of the LES facility in Eunice. WGI's role in the GNEP as a partner is to manage site selection and development, as well as to manage fieldwork and all subcontractors. Mr. Kehrman reported that work on the site is progressing well and that WGI's experience with projects such as WIPP

and LES has resulted in WGI being well integrated within the communities, culture, and people of Lea and Eddy Counties. Fourteen color exhibits prepared by Gordon Environmental were also presented on display easels illustrating site-specific information regarding site characterization of the ELEA site that is located halfway between Hobbs and Carlsbad on U.S. Highway 62/180, the WIPP route (*Gordon Environmental Site Characterization exhibits will be submitted with the final communication report*).

Sunita Kumar represented AREVA. Ms. Kumar gave a brief history and overview of the corporation and explained to the audience that AREVA had a significant corporate presence in the U.S. with over 5,000 employees at 40 locations. The company's focus is on providing fuel and related services to nuclear plants, including operations and maintenance. A DVD was shown, presenting a corporate overview of AREVA as well as an explanation of the nuclear fuel cycle including uranium mining/enrichment, fuel fabrication, reactor services, recycling, and used fuel management (*AREVA DVD will be submitted with final communication report*). Ms. Kumar closed noting that AREVA is involved with all phases of the nuclear energy process and has a worldwide presence and expressed AREVA's commitment to ELEA and GNEP.

GNEP OVERVIEW

Dr. Mark Turnbough, the Principal Investigator on the project, presented an overview of GNEP and noted the strength and suitability of the ELEA site with respect to GNEP needs. Dr. Turnbough noted that ELEA offers a perfect combination of site suitability and community support and that the economic, human, scientific, and environmental dynamics associated with the project were very encouraging. Dr. Turnbough indicated that GNEP and the current conditions regarding worldwide energy problems presented a unique opportunity to affect a major shift in public policy related to energy issues.

Dr. Turnbough gave a Power Point presentation detailing GNEP from a technical perspective (*See Attachment F*). The presentation explained the differences between a Closed Fuel Cycle system and an Open Fuel Cycle system and some of the related exigent issues regarding such forms of energy production. Dr. Turnbough explained that the goal of GNEP was multifaceted: energy sufficiency, making nuclear energy a more viable energy alternative, safeguarding and control of nuclear waste, and developing better and more efficient recycling technology. Two projects and potential solutions were discussed that involve the development of two facilities: the Consolidated Fuel Treatment Center (CFTC) and the Advanced Recycling Reactor. Dr. Turnbough also noted that several handouts were included in the brochure and materials given to attendees and went over the various briefs that included "The *Future of Nuclear Energy*," "*The Nuclear Fuel Cycle Fact Sheet*," "*Managing Used Nuclear Fuel*," and "*Used Nuclear Fuel Treatment and Recycling*" (*See Attachment G*). Dr. Turnbough indicated that the solution to the world's energy problems could be addressed through a combination of technological changes in the production of energy through the use of fossil fuels, development of other forms of alternative energy production, and the criticality on managing these waste streams.

The Infrastructure Requirements of GNEP

Dr. Turnbough reviewed the infrastructure needs of the ELEA site and pointed out some of the site characteristics that demonstrate that the site is the most suitable for locating the CFTC and the ARR. The site is geographically stable and it is free of any surficial complexity that could cause problems

with the construction and long-term operation of the GNEP. Also noted was the fact that there isn't any karst topography in the area or any threat on the proposed site to animals or plants currently on the endangered species list. The site meets all GNEP criteria and is relatively isolated.

In addition, the site has access to a large volume of dedicated water in the Ogallala Aquifer in the Lea County Basin and water rights are secured. Electrical power lines run to the north and south of the site with 220kV and 114kV lines. There is an existing, operable rail spur about 3.8 miles from the site. The site is adjacent to U.S. Highway 62/180, the last leg of the WIPP transportation route. Dr. Turnbough pointed out that the transportation system was recently subjected to intense review during the permitting process that allows for the WIPP to receive remote-handled waste. This has set a precedent for addressing some of the transportation issues that will need to be considered for the GNEP facility. In conclusion, the ELEA site and the existing infrastructure is physiographically suitable and has access to water, electricity, rail, the WIPP-approved highway system (with no encroachment issues), and offers proximity to existing nuclear-related facilities in LES, WCS, and WIPP.

Public Comment

Marla Shoats thanked Dr. Turnbough and recognized the importance of public participation to the GNEP process. Ms. Shoats opened the floor to audience questions and/or comments asking the state legislators in attendance to begin with their comments. Twenty-three individuals spoke during the public comment segment of the meeting.

Legislator comment indicated that the region has historically supported nuclear-related projects such as WIPP and LES, as well as the Andrews County Texas project involving Waste Control Specialists (WCS). Senators Leavell and Asbill and Representative Heaton applauded the level of attendance and expressed their support of ELEA and assured the group that they would work hard to secure necessary state and federal support to facilitate the siting process and infrastructure development. The legislators noted that support for the project reflected a pervasive "culture" in the community in support of WIPP, LES, WCS, and now the GNEP. They indicated that support was not only among the political and business leaders but the general population as well. Representative Heaton stated that when campaigning door-to-door, during the fall election, he would often ask constituents about these projects and never received negative feedback. Representative Heaton commented on the positive safety record of WIPP, as well as the professional management and community sensitivity exhibited by the WIPP operators. Senator Leavell commented that the existing and proposed projects would greatly enhance economic development of the region, resulting in an increase in quality jobs and careers, and encouraging future generations to remain in their communities. Senator Leavell stated that the state's universities and national labs would be valuable assets to the project. He also announced that an appropriation has been made to New Mexico Tech during the recently completed legislative session to fund a Southeast New Mexico Center for Energy Studies.

Senator Asbill shared his support for the project and stated that he is proud that the communities had come together in such a strong and cohesive manner to promote this site. Senator Asbill also said that given the circumstances surrounding the energy industry and the issues with nuclear waste, the project was not only viable but also imperative.

Comments were then received from approximately 24 members from the audience.

All of the public comments were positive toward the projects and supportive of the ELEA organization and efforts to secure GNEP. Most individuals indicated that although there was some initial skepticism regarding the WIPP, the operation has proven to be a very safe, well managed, and a significant economic driver for the community. Many statements were made regarding the potential jobs and opportunities that would come with GNEP. The Associate Director of the Carlsbad Environmental Monitoring Research Institute (CEMRC), which is part of the Institute of Energy and Environment, New Mexico State University Engineering Department, spoke and explained that his organization monitored the health of nonoccupational workers and the population in and around Carlsbad, and reported that there have not been any problems related to WIPP. He encouraged the participants to look at the CEMRC web site for more information. In addition, he offered continued assistance from CEMRC to ELEA. Another participant voiced her strong support for GNEP, sharing that as a German immigrant she was able to obtain her advanced degrees and establish a career working for WIPP in part due to the strong support from WIPP and the community. Several participants spoke of the supportive culture and values of the community relative to nuclear energy and the history of the area's involvement and understanding of the oil and gas industry. One speaker specifically related her negative experience in the Denver area as a worker at Rocky Flats and the discriminatory and disparaging manner in which the community treated her and her family. She noted that those attitudes did not exist in Carlsbad and that the community was proud to have nuclear-related industry located in the community and that the community's attitude was very understanding and positive.

Summary

The public comments at the ELEA Public Participation Meeting in Carlsbad, New Mexico, were extremely positive and demonstrated a solid understanding of the GNEP project and the nuclear industry in general. The participants of the community stated repeatedly that their collective experience with WIPP, LES, and WCS has provided residents, businesses, and the labor force with thorough knowledge of nuclear energy and the health and safety concerns associated with the industry. The community of Carlsbad was enthusiastic about the educational, environmental, and economic opportunities that the GNEP project could bring to the area.

Attachment A

Affidavit of Publication

State of New Mexico,
County of Eddy, ss.

April Hernandez, being first duly sworn, on oath says:

That she is HR/Administrative Assistant of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

March 18 2007

March 25 2007

March 27 2007

2007

That the cost of publication is **$ 104.06** and that payment thereof has been made and will be assessed as court costs.

April Hernandez

Subscribed and sworn to before me this 27 day of March 2007

Stephanie Dobson

My commission expires 1/25/2010
Notary Public

OFFICIAL SEAL
STEPHANIE DOBSON
Notary Public
State of New Mexico
My Comm. Expires 1/25/2010

March 18, 25, and 27, 2007

Carlsbad, NM
Public Meeting Notice

Notice of Public Participation Meeting: The Eddy-Lea Energy Alliance will hold a public meeting to provide information about the Global Nuclear Energy Partnership (GNEP) process and the potential of locating two major GNEP facilities at the Eddy-Lea Energy Alliance Site; which is approximately half way between Hobbs and Carlsbad on Highway 62/180

Date: Wednesday March 28, 2007
Location: Pecos River Village
Request: The public is invited to participate and provide comment on the proposed project

Time and Place of Hearing:

6-9PM
Pecos River Village
Carlsbad, NM

Contact: Jennifer Garcia Kozlowski 505.890.0306
Maria Sheats 505.890.0306

Affidavit of Publication

State of New Mexico
County of Eddy, ss.

April Hernandez, being first duly sworn, on oath says:

That she is HR/Administrative Assistant of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the State wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit

March 25 2007

March 27 2007

2007

2007

That the cost of publication is $ 51.26

and that payment thereof has been made and will be assessed as court costs.

April Hernandez

Subscribed and sworn to before me this

9 day of April 2007

Stephanie Dobson

My commission expires 1-25-08
Notary Public

OFFICIAL SEAL
STEPHANIE DOBSON
Notary Public
State of New Mexico
My Comm. Expires 1-25-08

PUBLIC MEETING
GNEP PROJECT

THE EDDY-LEA ENERGY ALLIANCE, LLC WILL HOLD A PUBLIC PARTICIPATIO MEETING TO PROVIDE INFORMATION ABOUT THE GLOBAL NUCLEAR ENERG PARTNERSHIP (GNEP) PROCESS AND THE POTENTIAL OF LOCATING TWO MAJO GNEP FACILITIES AT THE EDDY-LEA ENERGY ALLIANCE SITE, WHICH I APPROXIMATELY HALF WAY BETWEEN HOBBS AND CARLSBAD HIGHWAY 62/180

DATE:	WEDNESDAY MARCH 28, 2007
TIME:	6-9PM
LOCATION:	PECOS RIVER VILLAGE
REQUEST:	THE PUBLIC IS INVITED TO PARTICIPATE AND PROVIDE COMMENT ON THE PROPOSED PROJECT
CONTACT:	MAYOR BOB FORREST 505.887.3798 JENNIFER GARCIA KOZLOWSKI 505.890.0306 MARLA SHOATS 505.890.0305

Attachment B

Name	Organization	Phone #	Fax or Cell	Other	Notes
Aguilar, Paul	City Councilor	885-8520	361-8523 c		3/26 9:48 - expects to attend
Aho, Lori			302-6779 c		3/26 9:51 - arriving late Tues, will try
Akbarzadeh, Mansour	Washington TRU Solutions		234-5516		3/26 9:52 left msg vm
Allen-Munoz, Lorraine		887-0520			3/26 - 9:53 - will try to attend
Anaya, Manny	City Councilor	887-0131	361-4187 c		3/26 - 9:55 will be there
Asbill, Vernon	State Senator	887-1844 h	302-8135 c	505-986-4393 SF	Marla
Basabilvazo, George			706-0083 c		3/26 - 10:01 left msg on vm
Beasley, John	City-Community Development	887-1191	361-4940		3/26 10:05 will attend
Benjamin, John	Caverns Superintendent	885-8884 x20	706-1789		3/26 10:06 Will attend
Blenden, Dick		887-2071		302-3407	3/26 10:08 left msg w/ Sec. she will attend!
Boling, Wayne	Department of Development	887-6562			3/26 10:11 - will be there, notify him
Brininstool, Joe	BES Rentals	887-3550			3/26 10:14 left msg w/ secy.
Britt, Ken	Living Desert, Parks Board	361-8196 c			3/26 10:15 left msg
Brown, Greg	Center of Excellence	302-1963 c			3/26 10:16 will try to attend
Burgess, Harry	City Administrator	885-9084	505-200-6360 c		3/26 10:18 - Knew about mtg - Will attend
Busche, Donna	Washington TRU Solutions	234-8130			3/26 10:20 - left msg on vm
Camp, Ray	Eddy County Commissioner	885-2968			3/26 10:23 - saw ad, will try to attend
Carberry, Janet	Carlsbad Medical Center	887-4570			3/26 10:24 - left vm
Carlson, Kirsten	Carlsbad Mental Health	361-7002 c			3/26 10:26 will be there
Carrell, Phil Jr.	citizen	885-2155 x 228	302-1314 c		3/26 10:27 will try to attend
Carrell, Phil Sr.		887-3149 home	885-2155		3/26 10:28 will try to attend
Castaneda, Henry	Magistrate Judge	885-3218			3/26 10:29 left msg
Cavender, Kim	Gossetts/Soccer League	885-2194			3/26 10:30 left msg
Chacon, Robby	CNB	234-2580			3/26 10:32 left msg
Conca, Jim	CEMRC	234-[redacted]-5555	706-0214 c	628-0916 (h)	3/26 10:35 cannot attend big separator
Currier, Mike	Guaranty Title	887-3593			3/26 10:36 out of town til next wk
Davis, Stella	Current-Argus	628-5546			DNC
Day, Brad	City Councilor	234-7414	302-9000c		3/26 10:38 left vm
Derrick, Lewis	Eddy County Commissioner	505-365-2996			3/26 10:39 left vm
Detweiler, Robert			302-9061		3/26 10:40 left vm
Dewey, Dona	Stoller	885-0172			3/26 10:42 will be there!
Diamond, Jeff	City Councilor/Diamond Law Firm	885-3500	302-1190 c		3/26 10:43 will be out town

Name	Organization	Phone #	Fax or Cell	Other	Notes
Doss, Kay	Lions Club	887-6505			3/26 10:44 left VM
Dunagan, George		885-2138 x237	885-6809	706-2951	3/26 10:47 left VM
Eaton, Lynn	Washington TRU Solutions	234-8105			3/26 10:48 got email, will attend
Egbom, Betty	CNB, Chamber	505-234-2510	f 505-234-2590		3/26 10:50 left msg
Farnsworth, Jill	Washington TRU Solutions	234-8212 w			3/26 10:55 will try to attend
Foote, Randy	Intrepid	887-1117			3/26 10:56 left VM
Fox, Brian	Stoller	885-0172			3/26 10:56 will be there
Frye, Terry	Washington TRU Solutions	234-8204			3/26 10:59 will try to attend
Gant, Joe	Attorney	887-3956			3/26 11:00 may be able to attend
Garringer, Mike		885-0611 h			3/26 11:01 left VM
George, Don	Stoller	885-0172	302-9009 c		3/26 11:02 will attend
Goff, Tom	Washington TRU Solutions	234-8861			3/26 11:03 left VM
Gonzalez, Joey	Assistant Chief of Police	887-0471 w	361-6167 c		3/26 11:04 will be there
Gorrell, Art		885-8420			3/26 11:10 will attend
Grantner, Jim		361-8133 c			3/26 11:11 left VM
Gray, Bill	NM State Rep - Artesia (Eddy, Chaves)	746-2849			3/26 1:19 left VM
Gregory, Phil		234-7469		302-1158	3/26 11:13 left VM
Gregory, Scott		885-4195	200-5516 c		3/26 11:14 left VM
Haake, Terry	DA	885-8822	361-0593 c		3/26 11:16 out til Mon, left msg
Hadzic, Jackie	LULAC	887-5970	302-9222 c	361-3939	3/26 11:22 activist?
Harr, Dave	Washing TRU Solutions	234-7446			3/26 11:24 will attend
Harris, Dr. Bill	citizen (dentist)	887-3547	885-3000		3/26 11:29 left msg (2) asst.
Harrison, Jim	Carlsbad Foundation	887-1131	302-1798		3/26 11:38 will try to attend
Harvill, Joe	Washington TRU Solutions	234-7652			3/26 1:21 will be there!
Hayes, Rockford "Rocky"	Current-Argus	628-5555			DNC
Heaton, John	State Representative	887-5983 ofc	302-6358 c	505-986-4432 SF	Marlon
Henderson, Larry/Signe		887-7666			3/26 1:24 Weds "tough", maybe
Herndon, Craig	Washington TRU Solutions	234-8249			3/26 1:25 left VM
Herrell, Tony- in SF	BLM	234-5972	706-2776		3/26 1:27 Dorothy Morgan left VM
Hollis, Tom	Rotary (Monday)	234-2500			3/26 1:30 left VM
Jenkins, Jay	CNB	234-2517	706-2873		3/26 1:29 yes, wants a good turnout
Jierree, Candice	WIPP	234-8325	302-7422c		3/26 1:31 WILL SPREAD THE WORD
Jimmie Cisneros	City Councilor	885-0277	~~706-2884~~		3/26 1:34 will be there

A Sharp

Name	Organization	Phone #	Fax or Cell	Other	Notes
Johnson, Gloria	Washington TRU Solutions	234-7377			on team
Jones, Stewart	Washington TRU Solutions	234-8293			3/24 1:47 left VM
Jurva, Charlie	Tennis Pro	887-1980			3/24 1:48 will try to make it
Kearney, Mike	Weston Solutions			420-3932,	# not good
Kessel, Dave	Sandia Labs	706-1754 c	234-0031 ofc		3/24 1:51 he is out, asst will spread the word
King, Lila	Stoller	885-0172	302-3551 c		3/24 1:52 she will attend
Knittle, Jack	NM Transportation	885-8848			3/24 1:54 call back
Knox, Jody	Lakeview Christian Home	887-3947	361-3293		3/26 1:58 left msg
Kouba, Steve	Washington TRU Solutions	234-7443			3/24 2:00 left VM
Kump, Dave	Washington TRU Solutions	234-7230			3/24 2:33 left VM
Leavell, Carroll	NM Senator	505-395-2535 Jal	505-390-5705 c	505-986-4278 SF	Mark
Leyva, Joe		302-7039	887-4462		3/24 please email jleyva@triumph-techinc.
Lutman, Guy	Eddy County Commissioner	234-9856		302-1829	3/24 1255 pm left VM
Lynn, Doug	CEHMM acting director	706-2486 c			3/24 257 will be there. Mang.?s com
Martin, Tom	Attorney	887-3528			3/24 3:07 left msg
Massey, Steve	Eddy Co. Manager	887-9511	361-4939 c		3/24 308 left msg; 3/27 called to say attending
Mathis, Tom		706-3492 c			3/24 309 will attend
McCloskey, David		970-531-1680 c			Colorado #
McTaggert, Jerry	Sandia Labs	236-1734 h	628-1377 w	706-0206 c	3/24 312 left msg w/mother-in-law
Means, Dick	Otis Water Users Coop.	885-6146			3/24 hang up?
Means, Oran		885-6664	361-0207		3/24 316 left VM
Melnick, Jay		628-3389	361-7022 c		3/24 317 call back
Milligan, Meg		234-7340			3/24 320 can't make it
Most, Willie	Washington TRU Solutions	234-7410 w			3/24 325 will be there
Mottel, Phil		706-4295 c	706-9282 new #		3/24 327 will be there
Mounce, Dwayne	Carlsbad Mental Health Assn	885-4836 x122			3/24 329 not at that #
Moutray, Darlene	citizen	887-3454			3/24 330 left msg
Murray, Bob	Wells Fargo Bank President	885-1635 pvt			3/24 332 no answer
Murrill, Valerie	Murrill Electric Box 1266		234-9907 fax	302-3081	3/24 336 will be there
Neal, Jeff	Records Center-Source One	628-5801/628-5800	302-6567 c		3/24 337 left VM
Raaz, Dick	WTS	302-8117 c			DNC
Reynolds, Mike	Fire Chief	885-3125 w	361-1558 c		3/24-338 will be there
Rook, Bill	Fire Marshal	885-3125 w	302-9079 c		3/24 340 will there
Scott, Susan	Washington TRU Solutions	234-7204 w			DNC

Name	Organization	Phone #	Fax or Cell	Other	Notes
Sellmer, Todd	Washington TRU Solutions	234-7396 w			3/26 343 left VM
Sepich, Dave & Jayann	Springtime Cleaning	885-1931	885-4696 o	885-6940 fax	3/26 345 left VM
Sharif, Cindy	Drug Awareness educator	234-9963			DNC
Sharif, Farok	Washington Tru Solutions	234-7376			DNC
St. John, Bobby	Westinghouse	234-7348			3/26 346 left VM
Stell, Joe	NM Representative (former)	785-2188 H	361-0833 c	505-986-4610 SF	3/26
Stephens, Johnna	citizen – Carlsbad Mental Health	885-4836			3/26 left msg
Stephens, Tim	ERA	885-4131			3/26 355 out of town
Stroud, Cliff		706-0218			DNC
Stroud, Wren	RSI		887-1555 f	302-5153	DNC
Sullivan, Bobby	Pecos Valley Drug Force	887-5194	706-1450 (c)		3/26 352 Left msg
Tiffner, Bob	Benchmark Mortgage	887-6307			3/26 358 will be there
Tracy, Louise	City Councilor	885-4857			3/26 400 will be there
Vanderkraats, John	Washington TRU Solutions	234-8918 w			3/26 402 left VM
Volpato, Jack	Eddy County Commissioner	885-3716	8876611w	302-1236 c	3/26 403 left VM
Welch,Wanda	Beautification Committee	885-9201 h	706-0953 c		3/26 408 left VM
Weston, Bill	Washington TRU Solutions	234-7403 w			3/26 409 left VM
White, Sean	Washington TRU Solutions	234-7285 w			DNC
Whitlock, Janell	Eddy County Commissioner	885-3427 h			3/26 410 left VM
Wierzbicki, Bill	Washington TRU Solutions	234-7545 w			3/26 411 will be there
Wright, Mike	B&H	887-9755	200-9925 c		3/26 413 left msg w/ assist
York, Danny	Landsun	234-5809			3/26 415 left VM

Attachment C

Eddy-Lea Energy Alliance, LLC

Global Nuclear Energy Partnership (GNEP)

February 28, 2007
Carlsbad, NM

First Name	Last Name	Company	Address	City	Zip	Phone #	Email
BRAD	DAY	City of Carlsbad	1317 Lea Cir	Carlsbad	88220	5056280647	brad@dayclan.com
* MIKE (last minute)	CLEARY	NMSU CARLSBAD	1500 UNIVERSITY DR.	CA	88220	5052349220	MCLEARY@CAVERN.NMSU.EDU
* Edward (mtg)	Askew	CEMRC	1400 University	Carlsbad	88220	505 234 5502	easkew@Cemrc.org
Arthur	Correll	Citizen	1211 W. Riverside Dr	"	"	505-885-8420	AuriellaPlateau@aol
Victoria	Parker	"	P.O. Box 1831	"	"	505-887-8393	Vparkers7evens@yahoo.com
Al	Panerai	Self	1007 S Ccc	"	"	—	—
John	Manganaro	ACG	2107 Westridge Rd	"	"	505 885 6673	jmanganaro@cgnm.com
Regina	Ballard	self	204 Ferndale	"	"	234-1646	titleme@pvtnetworks.net
Wayne	Ballard	Resident	204 Ferndale	"	"	"	—
Jerri	McTaggart	Self	6005 Grandi Rd	Carlsbad	88220	706-0207	mctaggartjerri@yahoo.com

Eddy-Lea Energy Alliance, LLC

Global Nuclear Energy Partnership (GNEP)

February 28, 2007
Carlsbad, NM

First Name	Last Name	Company	Address	City	Zip	Phone #	Email
JEAN - FRANCOIS	LUCCHINI	LOS ALAMOS NATIONAL LAB.	115 N MAIN	CARLSBAD	88220	234 - 5556	lucchini@lanl.gov
DAVID	MCCLOSKEY	BENCHMARK	1902 MT. SHADOW	CARLSBAD	8822[illegible]	887 2709	BRANTLEY2007@WINDSTREAM.NET
Richard	Davies	Self	303 Who Who Dr.	Carlsbad	88220	887-1702	jdavies@warpdrive.online.com
Tricia	Johnson	Intera Inc.	4100 Commerce Dr Suite 105	Carlsbad	88220	235-6618	pjohnson@intera.com
RICHARD	BRIDGES	MEDICAL TECHNOLOGY SOLUTIONS	P.O. Box 1675	CARLSBAD	88221	885 8899	CAVER1@CAVERNS.COM
Cliff	Stroud		404 W. Riverside Dr.	Carlsbad	88220	706-0218	CStroud@zianet.com
Janet	Corbay	Carlsbad Medical Ctr	2430 W Pierce	Carlsbad	88220	887 4105	
Tom	MATHIS	SELF	618 Cupp Loop	Carlsbad	88220	887-2764	
Hal	Waters	NAREE	1606 Landsun Cir.	Carlsbad	88220	200-5599	hmwaters@escapes.com
Gary	Strong	Carlsbad Resident	1512 Grant	Carlsbad	88220	887-8147	gary.strong@wipp.ws

Eddy-Lea Energy Alliance, LLC

Global Nuclear Energy Partnership (GNEP)

February 28, 2007
Carlsbad, NM

First Name	Last Name	Company	Address	City	Zip	Phone #	Email
Julie	Archuleta	PECOS Management	101 West Pecan	Carlsbad		885-3401	jarchuleta@pecosmanagement.c
ROB	BAUMAN	Carlsbad chAmber	302 ~~50~~ CANAL	"		887-6516	
JOHN	HEATON	St Rep Dist 55	102 S Canyon	~	88220	887-5983	jheaton@comcast.com
Bob	FORREST	City	1306 Riverside	~	~	8873798	bforrest@carlsbadnm.gov
Larry	Henderson	Citizen	1302 S. Country Club	✓	88220	887-7666	larryhenderson@plateautel.net
Jim	Hurst	Washington Group International	202 W. Victoria Hobbs, NM	Hobbs	88240	(505) 607-0267	james.hurst@wgint.com
Phil	MOTTEL	WASHington TRU Solutions	601 W. orchard Lane Apt 14	Carlsbad	88220	(505) 706-9282	phil.mottel@wipp-ws
Roger	Nelson	Self	1620 No. Guadalupe	"	"	887-5648	rnelson@warpdriveonline.com
Stewart	Jones	WGI	1411 Glasier	C-bad	88220	234-8243	stewart.jone@wgint.com
Kristin	Carlson	Citizen	201 E Russell	Carlsbad	88220	706-2404	kristinc@leaco.net

Eddy-Lea Energy Alliance, LLC

Global Nuclear Energy Partnership (GNEP)

February 28, 2007
Carlsbad, NM

First Name	Last Name	Company	Address	City	Zip	Phone #	Email
Jennifer	Kozlowski	Shradt Weeks					j_koz@hotmail.com
Bill	Wierzbicki	WGI					william.wierzbicki@wgint.com
WAYNE	BOLING	Carlsbad Dept. of Develop	P.O. Box 1090	Carlsbad	88221	505 887-6562	fwboling@developcarlsbad.org
Steve	Massey	Eddy County	101 W. Greene	Carlsbad	88220	887-9511	
Doug	Lynn	CEHMM	505 N. Main	Carlsbad	88220	885-3700	doug.lynn@cehmm.org
Cal	Vandagriff		PO Box 715	C'bad	88221		
Mike	Reynolds	Carlsbad Fire Dept	409 S. Halagueno	C'Bad	88220	887-0924	mreynolds@plateautel.net
Bill	ST. JOHN	RETIRED	1914 MANZANO	C-BAD	88220	885-8051	-
Ron	Reeves	CEHMM	1208 Lindsey Drive	Carlsbad	88220	628-8565	ron.reeves@cehmm.org
Lisa	Hudston	CEMRC	1400 University Dr.	Carlsbad	88220	234-5532	lhudston@cemrc.org

Eddy-Lea Energy Alliance, LLC

Global Nuclear Energy Partnership (GNEP)

February 28, 2007
Carlsbad, NM

First Name	Last Name	Company	Address	City	Zip	Phone #	Email
Michael	Hillesheim	SNL	1120 Tracy Pl	Carlsbad	88220	505-887-5007	mbhilles@valornet.com
Jim	Hunter	Retired	415 Juanita	Carlsbad	88220	361-8133	
Marge	Anderson	Retired	1905 Calloway	Carlsbad	88220	885-0787	
Andy	"	"	" "	"	"	" "	
Tom	Klein	WRES	1121 W. Mesa	Carlsbad	88220	302-3655	
Carroll	Leavell	State Senate	Roswell	Jal	88252	390-5705	
Candice	Jierree	WTS	Carlsbad →		8822		
Judi	Waters	City	1303 W. Riverside	Carls.	88220	885-5715	jgwaters@hotmail.com
Jim	Waters	Navarro	"	"	"	"	
C.M.	Power	Merland Inc	PO Box 548	Chm	8822		

Eddy-Lea Energy Alliance, LLC

Global Nuclear Energy Partnership (GNEP)

February 28, 2007
Carlsbad, NM

First Name	Last Name	Company	Address	City	Zip	Phone #	Email
CHRISTINA BOURGEOIS	BOURGEOIS	NAWB, EAWDB & PECOS Mgmt.	PO Box 819	CARLSBAD	88221 NM	505 706-9000	christyb 4state rep@yahoo.com
JANELL	Whitlock	Eddy County	811 Preston Trl	Carlsbad	88220	505 885-3427	judge@ putnetworks.net
ANNE	SIRAIT	"	702 N Halagueno	"	88221	505 361-8636	aesleat@yahoo.com
Mark	Schinnerer	Farmers Ins.	217½ S. Canyon	Carlsbad	88220	887-6155	patriotic@cavemen.net
~~Louise Tracy~~	Tracy	City Council	Box 700	✓	✓	885 4857	
Kyle	Markstein	Current-Argus		✓	✓	706-2324	kmarkstein@yahoo.com
Greg	Brown	CEHMM	505 N. Main	"	"	302-1963	
Dave	Kump	Washington TRU Sol.	607 Caltros Ct.	"	"	887-3843	
Jack	Volpato	Eddy County	1526 Missouri	Carlsbad	"	885-3716	Jackvolpato@Hotmail.com
Gemma	Ferguson	Western Comm Bk	PO Box 5125	Carlsbad	"	887-0777	

Eddy-Lea Energy Alliance, LLC

Global Nuclear Energy Partnership (GNEP)

February 28, 2007
Carlsbad, NM

First Name	Last Name	Company	Address	City	Zip	Phone #	Email
Bob	Tiffner	Benchmark	929 N Canal	Carlsbad	88220	505 887 6307	rtiffner@myww.com
Guy Lu	Lutman	Eddy County	910 S Canal	Carlsbad		302 1829	Lutman @ Carlsbadnm.com
Denis	Ohnin	SCA	2909 Piedras	Carlsbad		302-8163	DOHENIN @ aol.com Denis Ohnin09

Attachment D

EDDY-LEA ENERGY ALLIANCE, LLC

Wednesday, March 28, 2007
Pecos River Village
6PM
Carlsbad, New Mexico

I. *Format of Public Participation Meeting*

Marla Shoats

II. *Welcome*

III. *Eddy-Lea Energy Alliance, LLC*

Mayor Bob Forrest

Commissioner Janelle Whitlock

IV. *Corporate Partnership*

Bob Kehrman Washington Group International

Jim Medford AREVA

V. *Technical Parameters of GNEP and the Practical Necessity of Fuel Recycling*

Mark Turnbough, Ph.D

Public Comment

15 Minute Break

VI. *The Infrastructure Requirements of GNEP*

Mark Turnbough, Ph.D

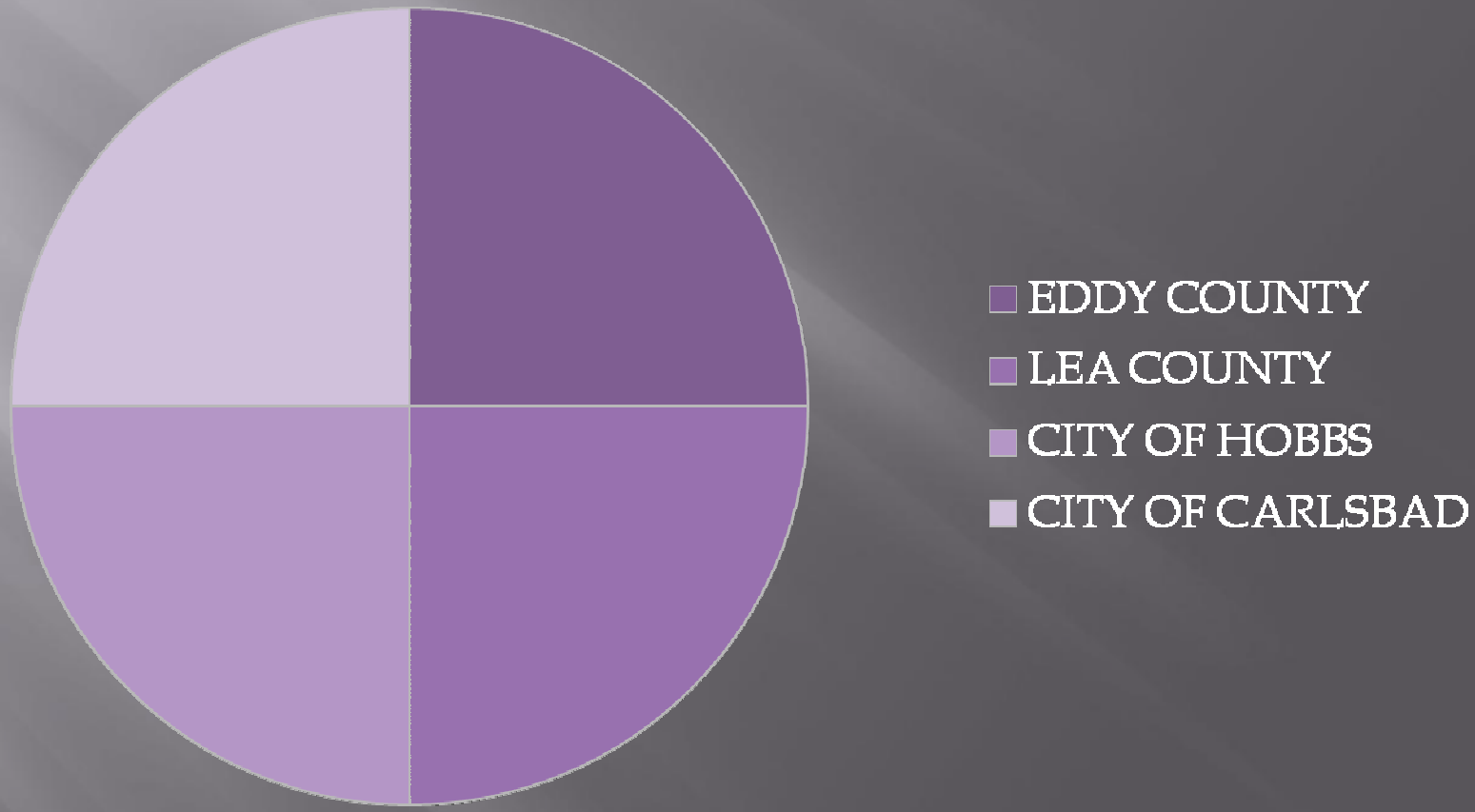
Public Comment

ELEA
PO BOX 905
HOBBS NM 99240

Attachment E

EDDY-LEA ENERGYALLIANCE, LLC

OWNERSHIP OF LLC PER PUBLIC ENTITY



EDDY-LEA ENERGY ALLIANCE, LLC

BOARD MEMBERS

JOHNNY COPE
CHAIR
(LEA COUNTY)

MAYOR BOB FORREST
VICE-CHAIR
(CITY OF CARLSBAD)

JIM MADDOX
SECRETARY
(CITY OF HOBBS)

COMM. JANELL E. WHITLOCK
TREASURER
(EDDY COUNTY)

ALTERNATES

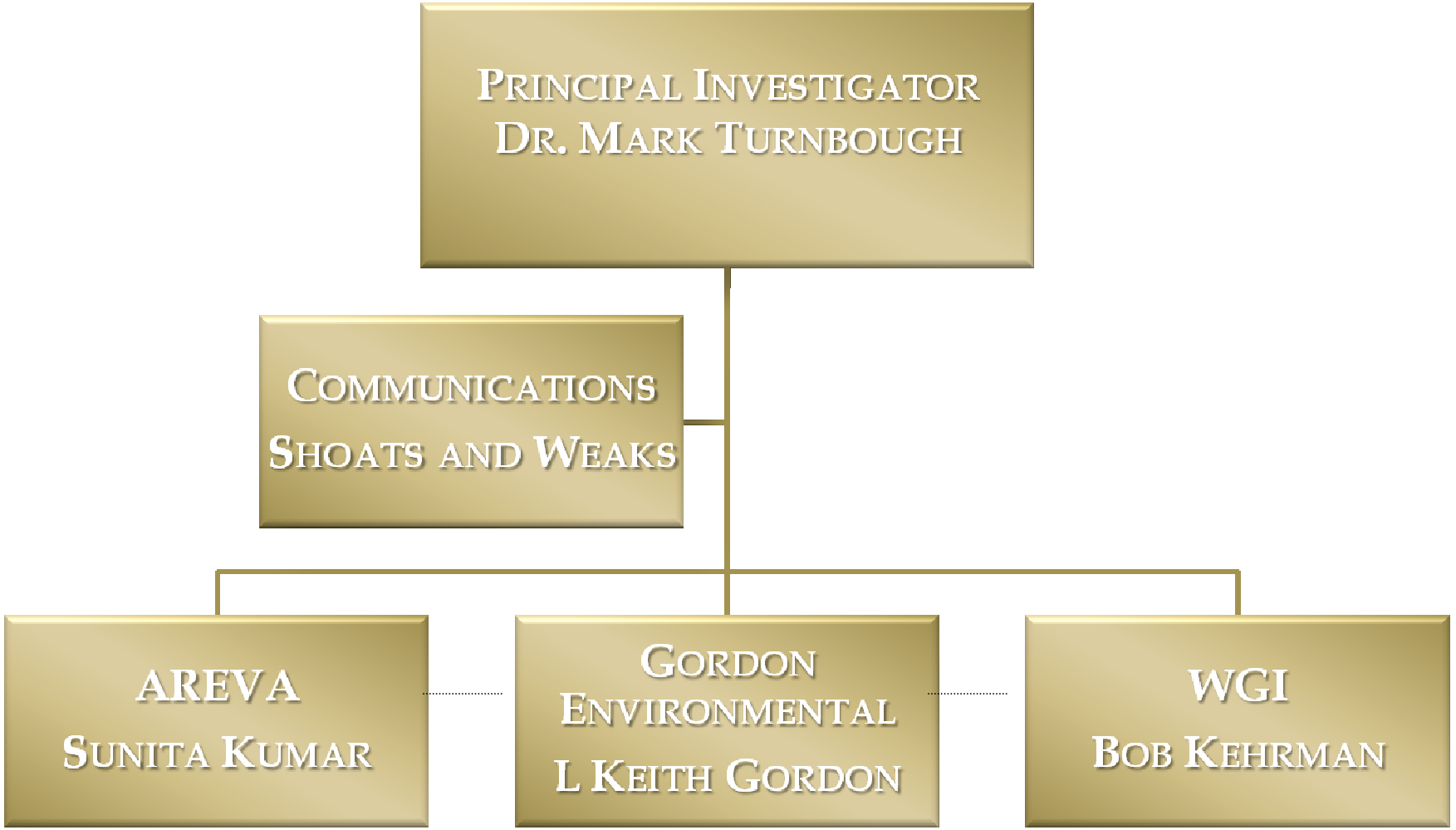
HARRY TEAGUE
(LEA COUNTY)

REP. JOHN HEATON
(CITY OF CARLSBAD)

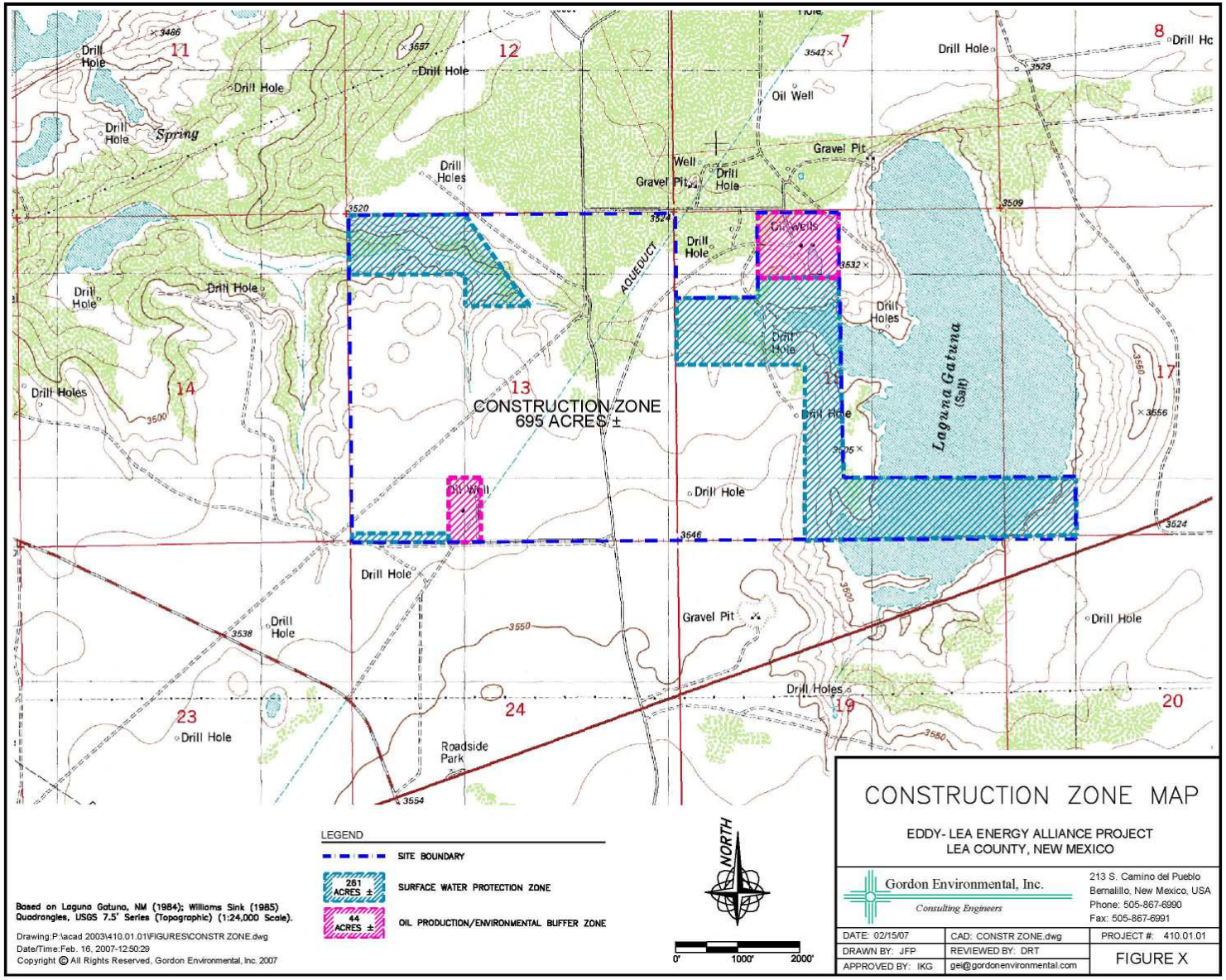
MAYOR MONTY NEWMAN
(CITY OF HOBBS)

STEVE MASSEY
(EDDY COUNTY)

EDDY-LEA ENERGY ALLIANCE, LLC



EDDY-LEA ENERGY ALLIANCE, LLC GNEP SITING STUDIES AREA



Attachment F

Global Nuclear Energy Partnership

EDDY-LEA ENERGY ALLIANCE, LLC

GNEP Technical Overview

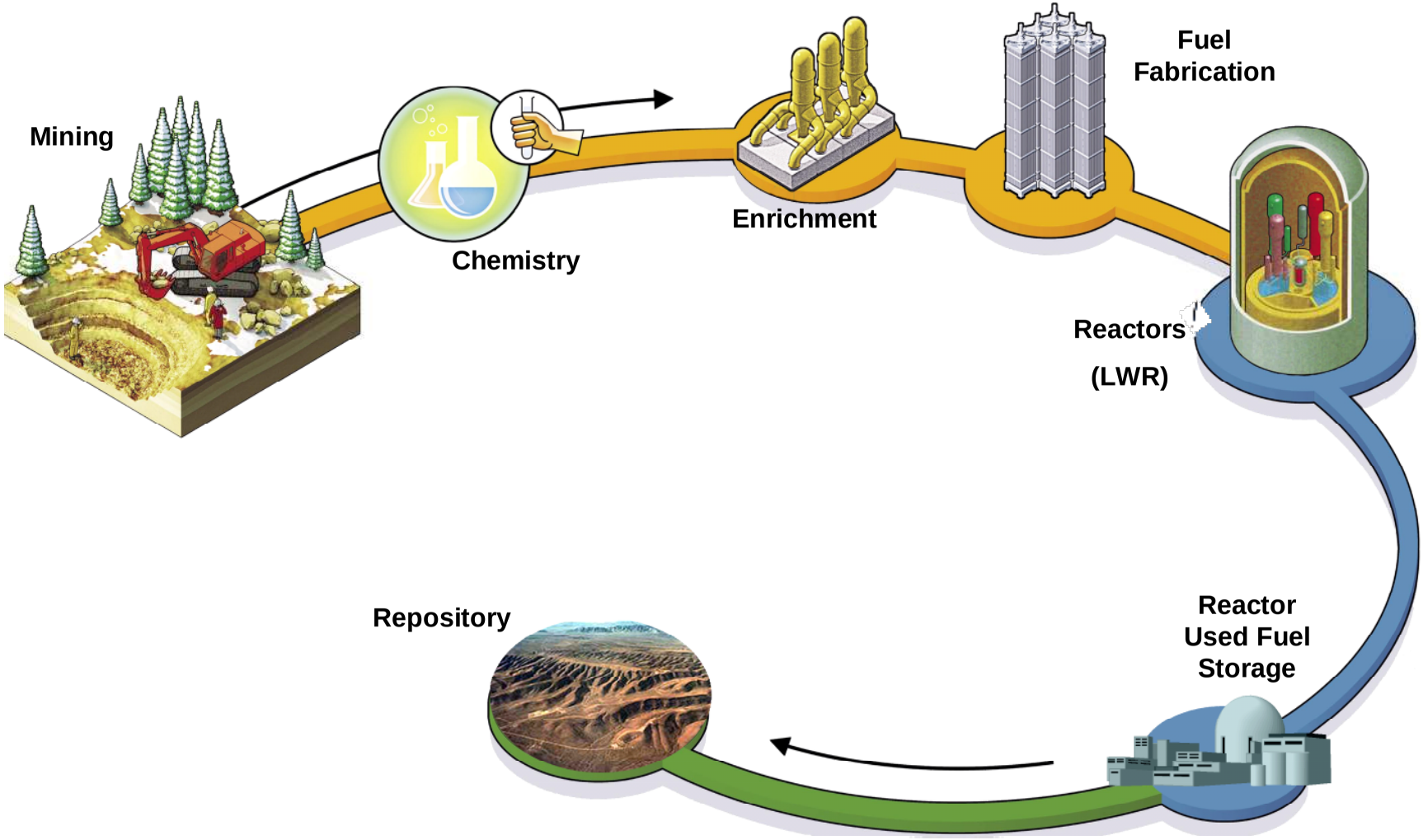
Mark Turnbough, PhD.

Principal Site Investigator

GNEP – U.S. Program Goals

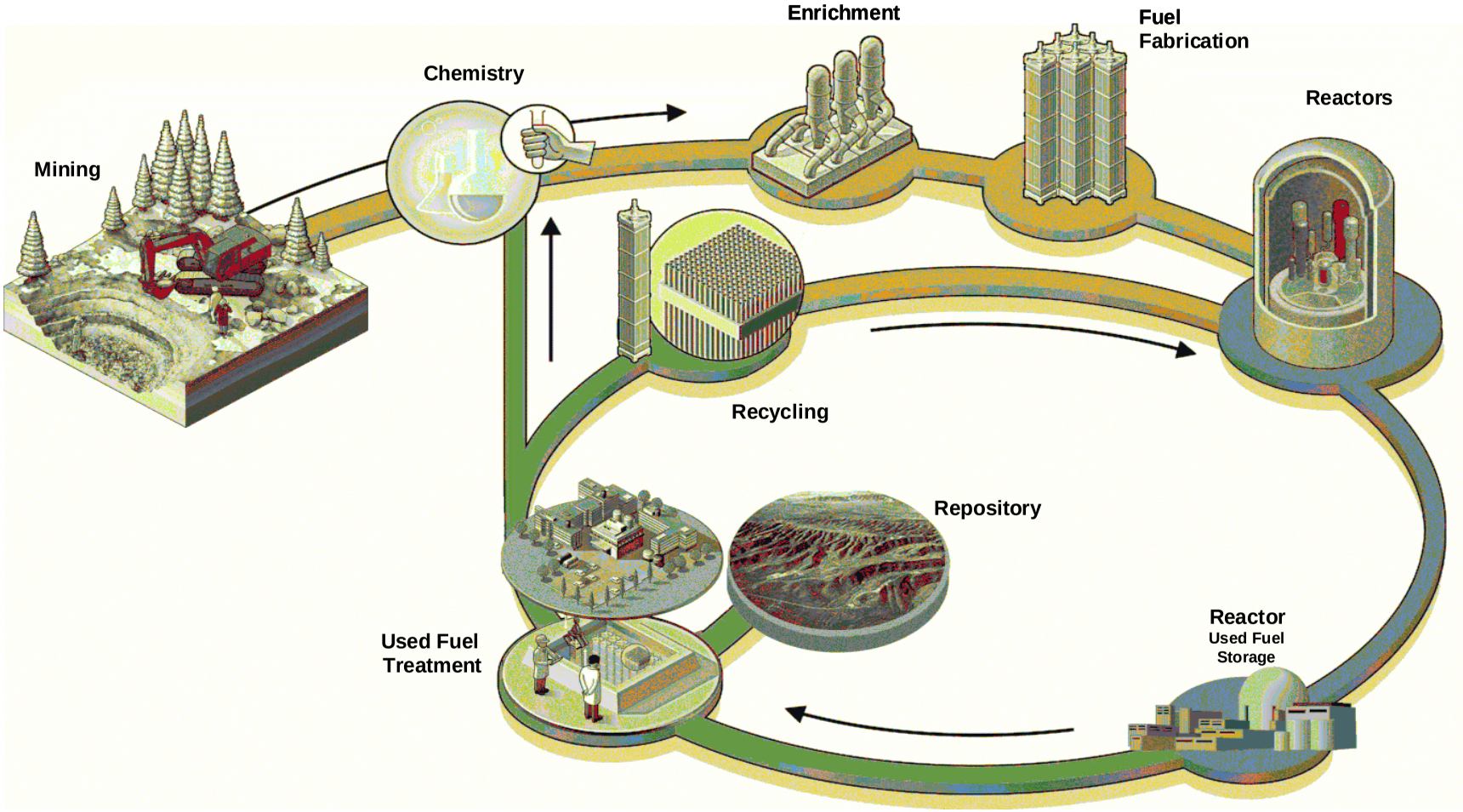
- Encourage expansion of nuclear energy production to meet energy challenges without emitting air pollution or greenhouse gases
- Recycle used nuclear fuel to minimize waste and reduce proliferation concerns
- Combine worldwide commercial fuel cycle industry expertise with DOE national laboratory advanced technologies R&D
- Reduce the number of required U.S. geologic waste repositories to one for the remainder of this century
- Assure maximum energy recovery from still valuable used nuclear fuel
- Encourage international cooperation among GNEP partners
- Enhance nuclear safeguards

Open Fuel Cycle



“Closed” Fuel Cycle

(in Current Recycling Countries)

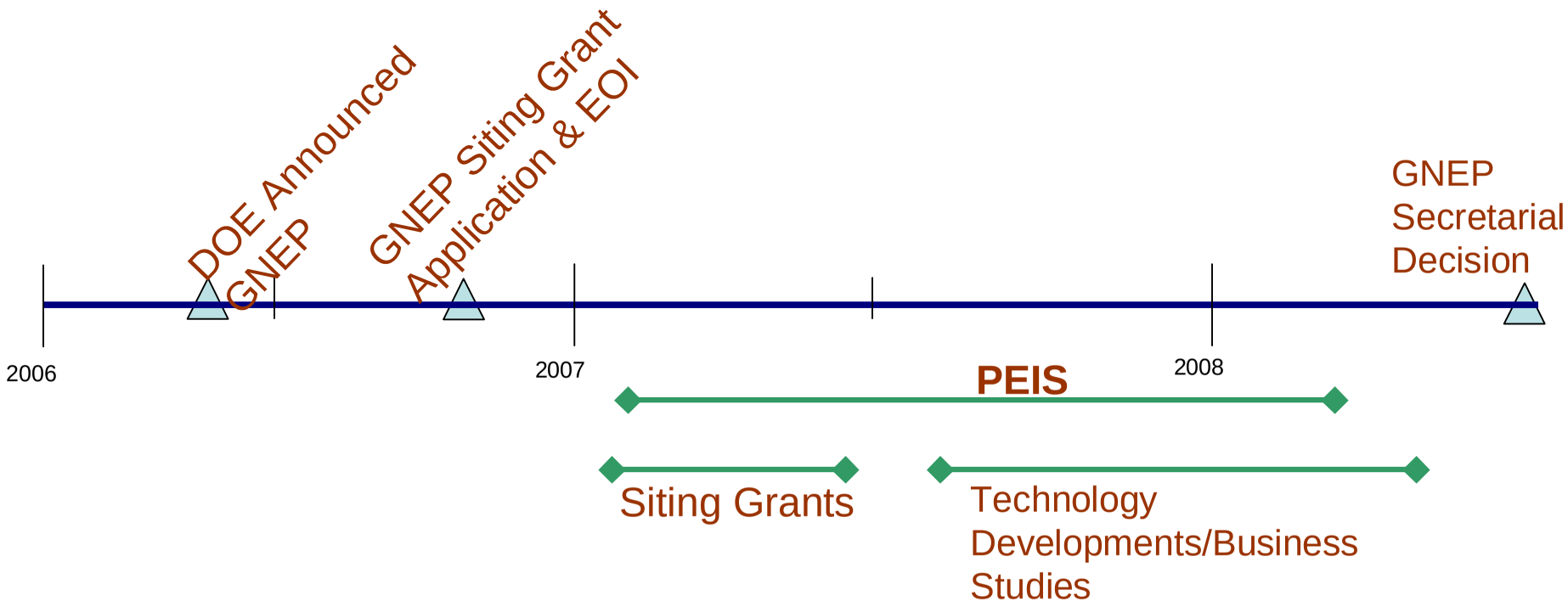


GNEP-Advanced Recycling combined with Advanced Reactors

Facility Descriptions

- Nuclear Fuel Recycle Center (CFTC)
  - Separates used fuel into reusable constituents (uranium and transuranics) and non-reusable constituents without separating pure plutonium
  - Fabricates fuel from transuranics for use in ARR
  - DOE currently analyzing alternative technologies with used fuel throughputs
- Advanced Recycling Reactor (ARR)
  - Destroy usable waste products (transuranics) while generating electricity
  - Proposed technology is a sodium-cooled fast reactor
  - DOE currently analyzing alternative power ratings

GNEP Timeline



GNEP Facility Timeline

CFTC & ARR Targeted for 2020 - 2025

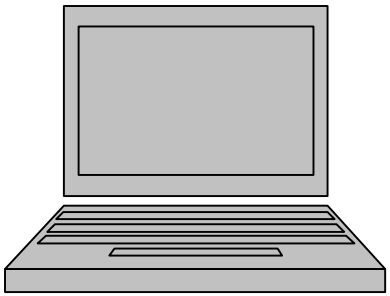
Summary

- GNEP promotes clean nuclear energy through maximizing recycling and minimizing waste, while reducing proliferation issues
- GNEP development in early stage
- DOE is encouraging industry and international participation in GNEP to support the Secretary's decision in June of 2008.

La Hague Facility Video

How to Submit Comments to DOE?

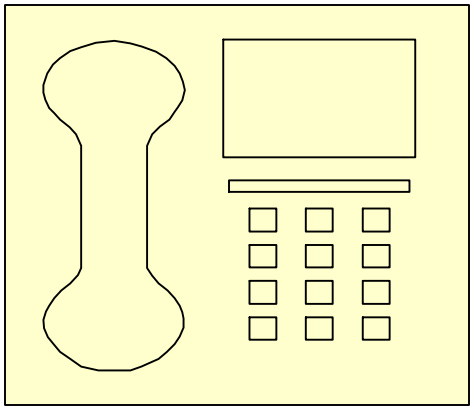
- **By US Mail to**:



Mr. Timothy A. Frazier
Office of Nuclear Energy/U.S. DOE
1000 Independence Ave, SW
Washington, D.C. 20585

- **By email**: **GNEP-PEIS@nuclear.energy.gov**

- **By phone**: **Toll free 866-645-7803**
- **By fax**: **Toll free 866-645-7807**

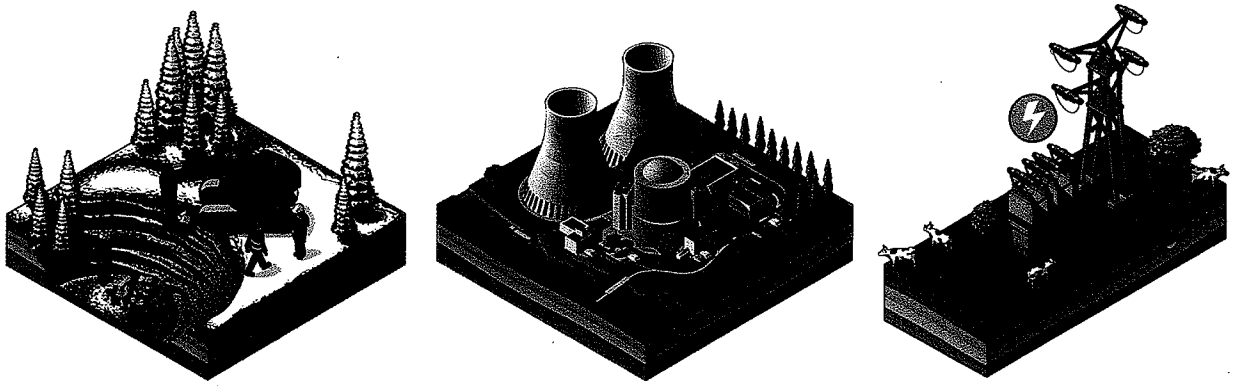


COMMENT PERIOD ENDS APRIL 4, 2007

15-Minute Break

Attachment G

A new generation for energy generation AREVA in the U.S.



AREVA

Did you know the following 10 facts about our company?

AREVA ...

1. Ranks as the No. 1 U.S. supplier in the following areas:
   - Nuclear energy products and services,
   - Energy management and energy market systems.
2. Generated $1.8 billion in U.S. revenues in 2005.
3. Employs some 5,000 people at 40 locations throughout the U.S.
4. Designed the U.S. Evolutionary Power Reactor (U.S. EPR), a Generation III+ nuclear reactor, to be built in the U.S. by American employees with U.S. resources.
5. Develops advanced nuclear fuel cycle technologies from uranium mining and fuel fabrication to used-fuel management.
6. With Constellation Energy, launched the Unistar Nuclear joint venture, which offers customers a new business model to license, build, own and operate a U.S. EPR as part of a standardized fleet.
7. Designs and develops instrumentation systems and services for radiation detection and monitoring, including U.S. homeland security solutions.
8. Provides dispatching systems that control 40 percent of the energy flowing in the U.S.
9. Supplies network products to two-thirds of all U.S. utilities.

AND Fortune Magazine

10. Designated AREVA as a Global 500 Company and reported in 2005 that AREVA was The Most Admired Global Energy Company.

AREVA Products and Services

FRONT END

Mining, Chemistry, Enrichment, Fuel

The Front End businesses are involved in producing nuclear fuel for electric power generation: uranium mining, concentration, conversion and enrichment, and nuclear fuel fabrication.

REACTORS AND SERVICES

Reactors, Equipment, Nuclear Services, Nuclear Measurement, Consulting and Information Systems, Technicatome

The Reactors and Services division designs and builds pressurized water reactors (PWR), boiling water reactors (BWR) and research reactors. AREVA also offers products and services to operate and maintain every type of nuclear facility, as well as nuclear safety solutions for homeland security.

BACK END

Treatment-Recycling, Engineering, Cleanup, Logistics

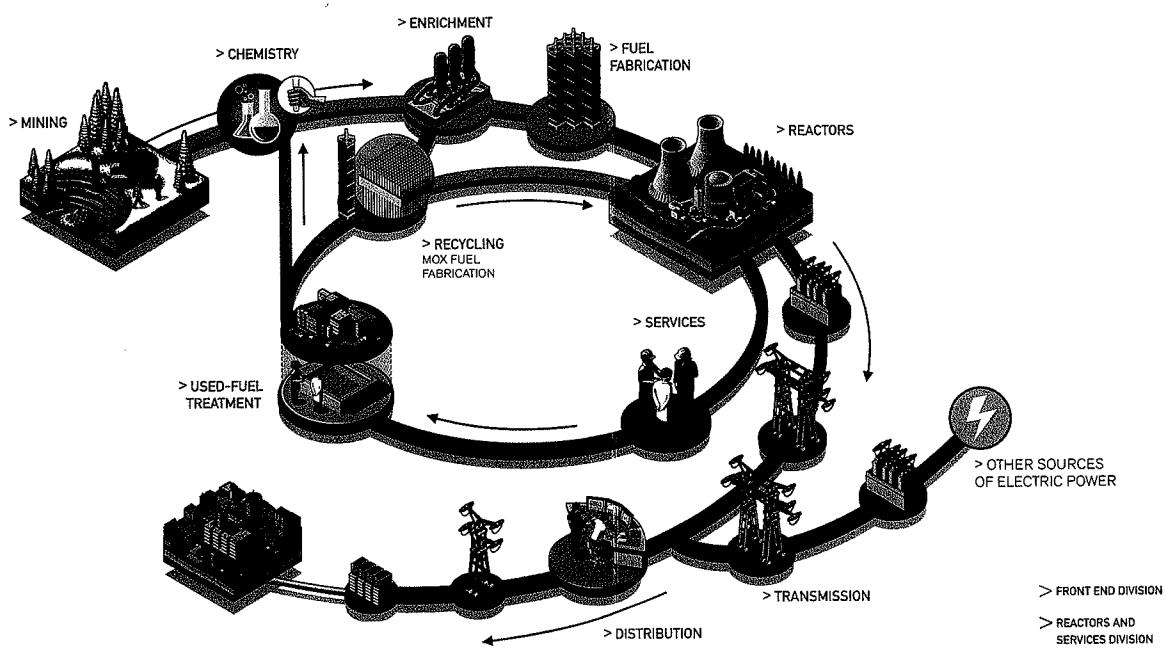
This division provides used-fuel management services after the nuclear fuel has been discharged from the reactor. AREVA is the leading U.S. provider of interim storage solutions for used nuclear fuel to customers opting for this approach.

TRANSMISSION AND DISTRIBUTION

Products, Systems, Services and Automation

The Transmission and Distribution division offers products, systems, services, automation and information systems for the medium- and high-voltage electricity markets. Our products are used to transmit and distribute electricity from the generator to the large end-user.

World-Class Technology Proven Solutions



> FRONT END DIVISION

> REACTORS AND SERVICES DIVISION

> BACK END DIVISION

> TRANSMISSION AND DISTRIBUTION DIVISION

Key Figures for 2005

5,000 employees across the U.S.

$1.8 billion generated in U.S. revenues

AREVA Products and Services

FRONT END

Mining, Chemistry, Enrichment, Fuel

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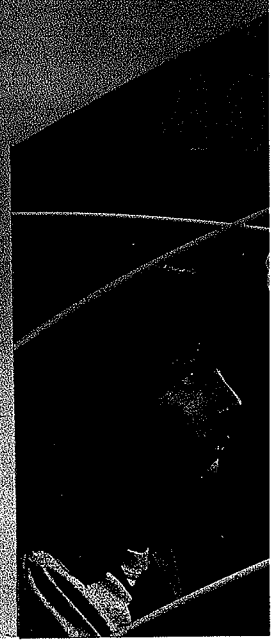

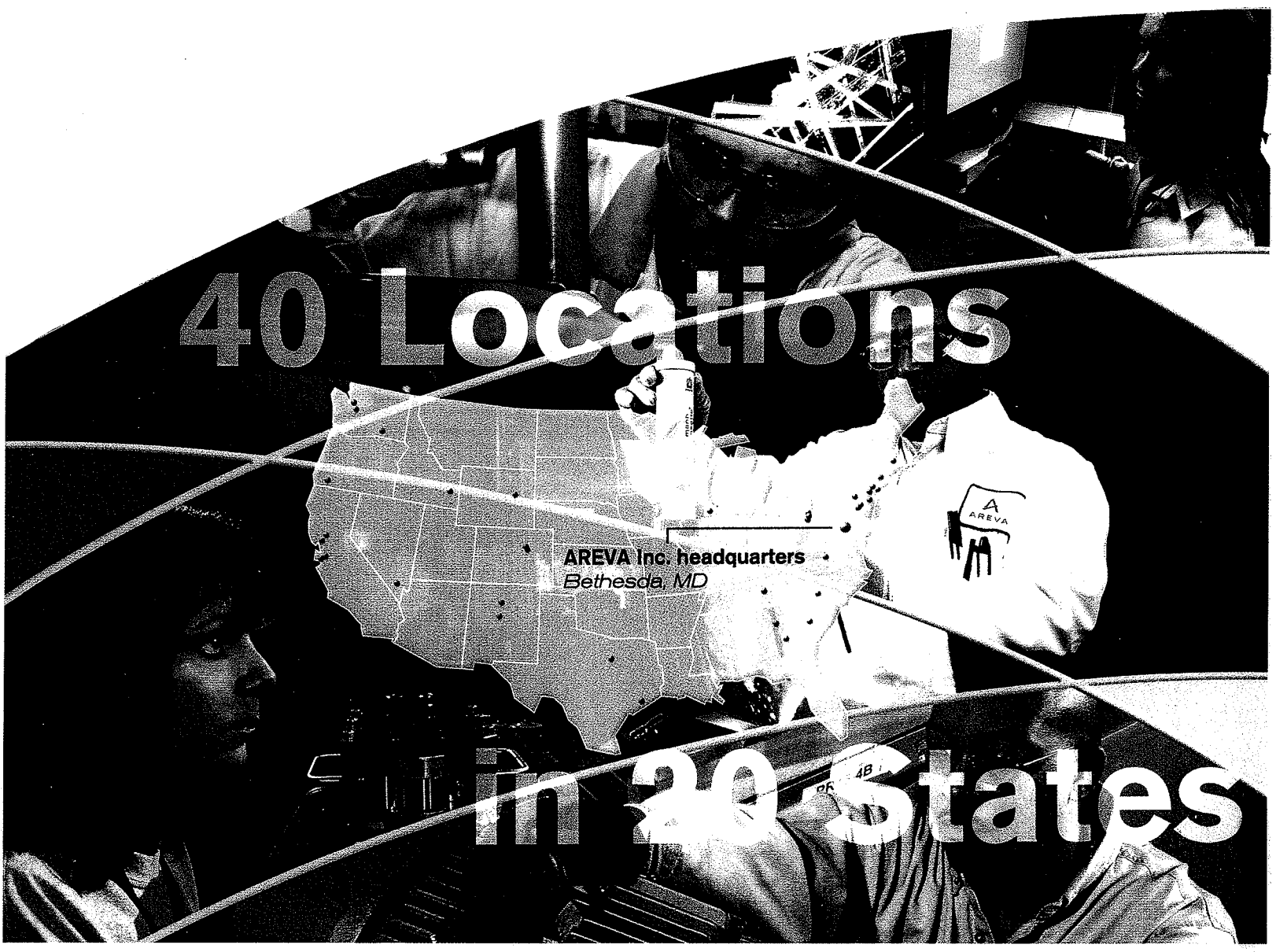
40 Locations
AREVA Inc. headquarters
Bethesda, MD
in 20 states

As the leading U.S. nuclear vendor and a key player in the electricity transmission and distribution sector, AREVA – with its 5,000 American employees – is committed to serving the nation and paving the way for the future of the electricity market.

With 40 locations across the nation and $1.8 billion in revenues generated in 2006, AREVA, through its subsidiaries, combines homegrown leadership, access to worldwide expertise and a proven track record of performance.

In the U.S. and in over 100 countries around the world, AREVA is engaged in the 21st century's greatest challenges: making energy available to all, protecting the planet, and acting responsibly towards future generations. AREVA Inc. is headquartered in Bethesda, Maryland.

www.us.areva.com

AREVA Inc.
4800 Hampden Lane
Bethesda, Maryland 20814
Tel: 301-841-1600
Fax: 301-841-1611
www.us.areva.com

July 2006

THE FUTURE OF NUCLEAR ENERGY

Nuclear Power: A Key Contributor To U.S. Energy

Nuclear power's operational reliability, cost efficiency and minimal effects on the environment are just a few of the many benefits that will make this energy source an important part of America's future. U.S. nuclear power generating companies currently operate 103 power reactors that produce nearly 20 percent of the nation's electricity. By 2015, an additional four nuclear power units are expected to be in operation, according to the U.S. Energy Information Administration. To ensure that this important energy source remains a part of a balanced energy mix, the Energy Policy Act of 2005 provides incentives for investment in new nuclear power plant construction. These incentives include financial insurance covering delays for the first six units ordered, a production tax credit for the initial eight years' operation of the first 6,000 megawatts of new generation, and loan guarantees for construction costs.

Environmentally Friendly

Many environmental experts now agree that nuclear power has less effect on the environment then other energy sources. Consider these facts:

- Nuclear reactors produce clean energy. They do not emit harmful gases that can cause acid rain or greenhouse gases that can affect climate change.
- Through emissions trading, nuclear power plants help states meet clean-air standards.
- Electricity production by nuclear power prevented 3.32 million tons of sulfur dioxide, 1.05 million tons of nitrogen oxide, and 681.9 million metric tons of carbon dioxide from entering the earth's atmosphere in 2005.
- Unlike any other industry, the nuclear energy industry isolates its used fuel from the environment using U.S. Nuclear Regulatory Commission-approved containers.

Cost Effective

The favorable economics of nuclear power are essential to sustaining or increasing growth in the industry. Resource availability, reliability, predictability, and public policies factor into nuclear affordability. Nuclear power, achieving the lowest production cost of the major sources of electricity, provides a cost effective choice for the American energy mix.

- The most recent data, published in 2005, states that, for the sixth consecutive year, a nuclear power plant's baseload production cost of 1.72 cents per kilowatt-hour was lower than coal, oil and natural gas. (Coal was reported at 2.21 cents, oil 8.09 cents, and natural gas 7.51 cents.)
- Nuclear power avoids costly fossil fuel energy imports and helps ensure the long-term stability of prices.
- In 2004, the University of Chicago completed the first exhaustive study examining the economic competitiveness of nuclear power, considering the internalized expenses such as the cost of managing waste, managing long term repositories and decommissioning the plant at the end of its life. The study shows that the future cost associated with nuclear power production is comparable with gas and coal-based energy generation.

Reliable

- Nuclear power is one of the two major sources of baseload generation, which essentially runs year-round to provide the electricity that powers the American economy.
- Nuclear power plants are designed for endurance and can run for about 540 to 730 days between refueling shutdowns.
- U.S. reactors produced energy 89.7 percent of their running time in 2005. In 2004, the U.S. nuclear power industry set a record with an efficiency rate of 90.5 percent.

Exceptional Performance

The nuclear industry's performance record in the last ten years shows the exceptional operation of nuclear power plants. Since 1996 – the year the last new reactor went into operation – U.S. nuclear power plants have increased the amount of electricity they produce by 17,000 megawatts. This amazing performance is the result of a combination of license renewals, power uprates and shorter, more efficient outages.

- License renewals have been granted for 46 units, and applications for an additional 35 units are pending. These renewed licenses represent about three-quarters of all U.S. reactors.
- Uprates – increases in the power level at which a nuclear plant can operate – have added 4,845 megawatts of electricity to the U.S. electricity supply.
- Strong management of refueling outages have reduced the average time it takes for this key operation from three months to one,

substantially increasing the time that reactors are producing electricity.

- The capacity factor (a measure of the amount of power produced compared with a unit's theoretical maximum) of U.S. nuclear power plants has risen from 66 percent in 1980 to 89.6 percent in 2005.

As a result of these activities, the same number of nuclear plants is producing considerably more electric power.

Supported By U.S. Energy Policy

U.S. energy policy vigorously supports the continued development of safe, clean nuclear power plants. • The U.S. Department of Energy (DOE) established the Nuclear Power 2010 Program, which calls for the addition of 50,000 megawatts of nuclear power generation by 2020 based on estimates of growing electricity demand in the U.S.

- The Energy Policy Act of 2005 renews for 20 years the Price-Anderson Nuclear Industries Indemnity Act, which provides insurance to cover the cost of possible radiological accidents and includes provisions to encourage the development of advanced modular reactors.
- President Bush's Global Nuclear Energy Partnership (GNEP) seeks to develop an international consensus on expanding the use of nuclear power to meet the growing demand for electricity around the world, while creating the systems and technologies that limit proliferation.

Aging Reactors Mean The U.S. May Need Many More Nuclear Power Plants

By 2036, the original licenses for all U.S. nuclear units will expire. Some question if the current nuclear initiatives will be enough to meet the rising energy demands in the U.S. If 20-year extensions were granted for all expiring licenses, in just over 50 years, every unit would have to be replaced, and that is without taking into consideration increased demand. DOE's Energy Information Administration (DOE EIA) estimated at the end of 2005 that 6,000 megawatts of new nuclear capacity would occur between now and 2030, largely as a result of the incentives included in the Energy Policy Act of 2005. The Nuclear Energy Institute, the industry trade organization, maintains that new plant construction will "increase substantially from 2020 to 2030" beyond EIA's projection.

Rising Uranium Costs Make Recycling Economic

Fresh uranium for the once-through fuel cycle is a finite natural resource. Although current supplies meet the needs of the nuclear industry, the quality decreases as more and more uranium is mined. Mining also becomes more difficult as quantities of uranium ore decrease. The limited amounts of this resource can restrict supply and could lead to price increases, which can make recycling used nuclear fuel economically sensible.

Uranium consumption has surpassed the amount mined for the past 20 years. In 2005, production was 108 million pounds U3O8, while consumption was 175 million pounds U3O8. In 2005, the United States produced only 3 million pounds U3O8. Canada was the largest producer at 30 million pounds, followed by Australia at 25 million and Africa at 18 million. Since 2001, uranium prices have climbed from under $10 to $60 (November 2006) per pound U3O8. Between 2003 and 2005, spot market uranium prices increased nearly 260 percent, and near-term supply is limited.

Advanced Recycling Technologies Can Make The Critical Difference

Advancements in nuclear technology are meeting the needs caused by future energy growth. Yet, these technologies require development and deployment of reactor and used fuel treatment/recycling technologies. Five of six reactors in DOE's "Generation IV" development program involve closed fuel cycles with recycling capabilities. These so called "fast reactors" can burn plutonium combined with other isotopes efficiently. These units can function as burners, with the capability to close the nuclear fuel cycle with chemical separation technology, or they can function as breeders, units that can produce more fuel than they consume, without separating out weapon-usable plutonium.

The recent rise in the price of many fossil fuels has demonstrated how important a diverse energy portfolio is for providing the reliable, cost-effective electricity that fuels the U.S. economy. Nuclear plants provide economical, reliable baseload power without emitting greenhouse gases. The nation continues to invest in nuclear technologies that will meet today's energy needs and develop the advanced nuclear power technologies that secure our energy supplies for the future.

THE NUCLEAR FUEL CYCLE FACT SHEET

What Is The Nuclear Fuel Cycle?

The nuclear fuel cycle, pictured above, is a term used to describe the mining of uranium and the various processes it undergoes so that it can be (1) turned into reactor fuel, (2) removed from the reactor after its use, and (3) either recycled or disposed of.

The front end of the cycle covers the processes that enable the uranium to be fabricated into fuel. The back end of the cycle covers the processes that enable the used fuel to be either recycled to make more fuel or stored while awaiting final disposal. The term "closed fuel cycle" describes a cycle in which used fuel is recycled. An "open fuel cycle" refers to a cycle that does not involve recycling used fuel. Some refer to the open fuel cycle as the "once through" approach or direct disposal.

The US GNEP program, Global Nuclear Energy Partnership, involves possible approaches for waste disposal and non-proliferation and includes initiatives in the back end of the fuel cycle. Decisions made concerning this part of the cycle may affect the nuclear renaissance.

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Open pit or underground operations are used to extract uranium ore from the ground. Automation can be used for high-grade (more radioactive) ore so that miners do not come into contact with it. Extracted ore is processed at the mine into a concentrated form, called yellow cake.

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Yellow cake does not contain enough of the isotope needed for the chain reaction that creates energy. The uranium (yellow cake) needs to be enriched to increase this isotope. To be enriched, the uranium must undergo conversion to uranium hexafluoride, a gaseous form.

Enrichment

The enrichment process isolates the needed isotope by passing the gas through a porous surface or a centrifuge. Being lighter than the other atoms, the required isotope can pass through the porous surface more easily than the other atoms or collect in a different part of the centrifuge.

Fuel Fabrication

After enrichment, the gas is defluorinated, and the uranium is turned into an oxide powder that is pressed under very high pressure tomake small cylindrical pellets, which are sealed inside fuel rods. The rods are bundled into a fuel assembly and then placed in the reactor.

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Used-Fuel Disposal

Disposal involves first removing the used fuel from the reactor and transferring it to temporary "wet"storage (in a pool) and later to "dry"storage. The used fuel is aged to lessen its radioactivity before it is shipped to a repository for disposal. The storage and shipping packages are specially designed for maximum safety and approved for use by the U.S. Nuclear Regulatory Commission.

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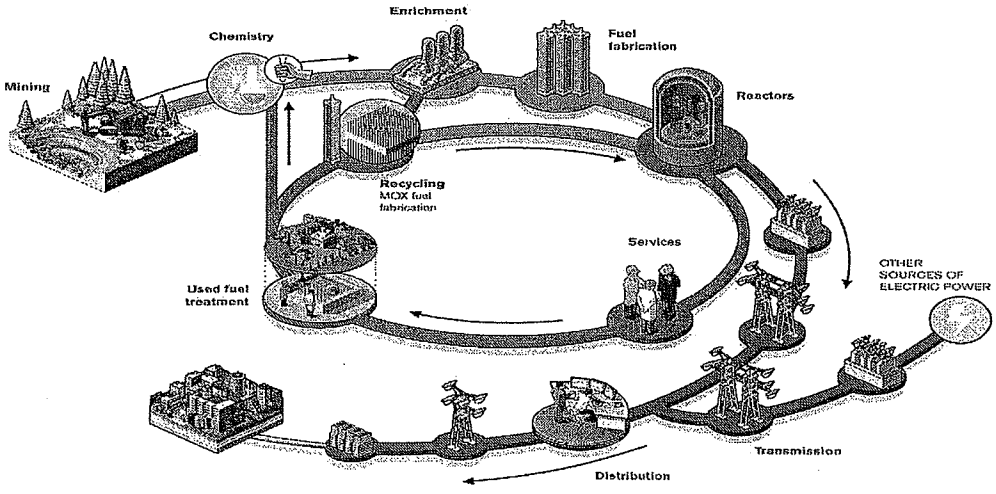

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MANAGING USED NUCLEAR FUEL

Renewed Interest In A Renewable Resource

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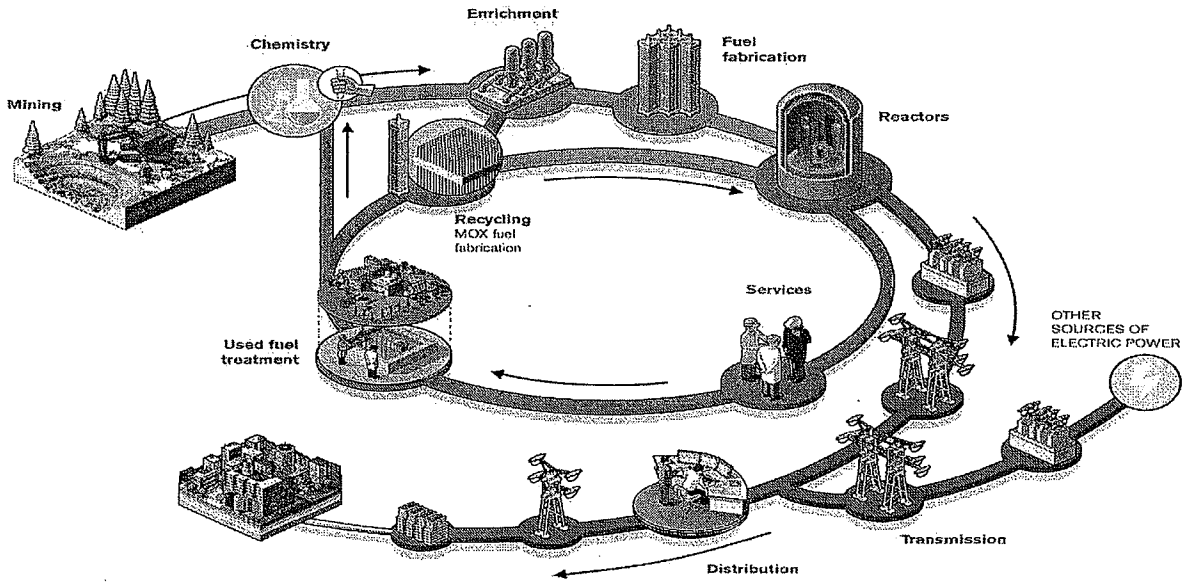
These changes, coupled with nonproliferation concerns about possible diversion of weapons-usable materials, began to change U.S. government policy on the closed nuclear fuel cycle. American policy became focused solely on nonproliferation concerns, and President Jimmy Carter banned commercial spent fuel reprocessing while acknowledging the rights of other nations to operate a closed fuel cycle.

Although President Reagan lifted the ban on reprocessing in the 1980s, by then, utilities considered it uneconomic. Interest in a new generation of nuclear power plants is a result of the record of reliable and efficient electricity production by the existing U.S. nuclear fleet coupled with growing concerns about energy security and global warming. Nuclear power provides solutions to these issues, but unless we close the fuel cycle by recycling used fuel, it is likely that a new generation of nuclear reactors would have to rely on a second repository under an exclusive once-through fuel cycle policy.

Higher uranium costs, tighter fuel cycle supplies, continued schedule difficulties at the Yucca Mountain repository have brought U.S. fuel cycle policy back to the forefront of the nuclear debate.

Direct Disposal: The Open Nuclear Fuel Cycle

Direct disposal at Yucca Mountain has remained the U.S. policy for managing used nuclear fuel. In 1982, Congress passed the Nuclear Waste Policy Act (NWPA), establishing the once-through fuel cycle as



U.S. nuclear policy. The law declared used fuel to be waste and called for the siting of two national underground geologic repositories for permanent disposal of spent fuel and other nuclear waste. DOE and nuclear utilities entered contracts under which the utilities paid a fee per kilowatt-hour. In return for these fees, DOE would move their spent fuel to a repository.

In 1987 the NWPA was amended to eliminate a second repository and to focus solely on a site at Yucca Mountain, Nevada. With an open cycle or with a closed cycle as proposed in the GNEP program, there is a need for a geological repository.

Used Nuclear Fuel Treatment And Recycling: Closing The Fuel Cycle

Some countries recycle their used nuclear fuel. After cooling at the reactor and at the treatment plant, the used fuel assemblies are treated chemically to separate their contents. The energy-producing components (uranium and plutonium) are recycled to make uranium oxide (UOX) fuel and mixed oxide (MOX) fuel. There are benefits to this recycling process:

- Recycling could eliminate need for additional repositories this century
- The process offers energy security by making the best use of existing fuel
- The economics of reprocessing and recycling can be comparable to those of the once-through fuel cycle
- Waste materials, with significantly reduced radiotoxicity and volume, are vitrified in a highly stable glass form for disposal in a national repository in Europe, no diversion of plutonium from any safeguarded civilian commercial facility has taken place.

The U.S. is exploring the benefits of recycling through the Global Nuclear Energy Partnership (GNEP). President Bush seeks to develop an international consensus on expanding the use of nuclear power to meet the growing demand for clean power around the world while limiting proliferation.

One element of the program is to develop nuclear fuel treatment technologies that do not separate pure plutonium out of used fuel. GNEP would simultaneously increase fuel supply while reducing some major challenges to the Yucca Mountain repository.

Recycling in advanced burner reactors would address technical issues in licensing the repository by reducing the heat generation, radiotoxicity and volume of waste materials. As a result, GNEP would extend Yucca Mountain's capacity. The Yucca Mountain repository will continue to be the key component of the nation's nuclear waste management strategy, whether the nation decides to maintain its current open fuel cycle or to close the nuclear fuel cycle through recycling and treatment.

USED NUCLEAR FUEL TREATMENT AND RECYCLING

Recycling – A Used Fuel Strategy To Do More With Less

Recycling describes the series of processes that recover the energy-producing elements of uranium and plutonium from used nuclear fuel. The process separates waste products that can be packaged for disposal and recovers the remaining material to make more commercial reactor fuel. Recycling of used fuel means less uranium must be supplied as more nuclear fuel will be available.

How Is Recycling Done?

Current method

When used fuel leaves the reactor, it contains elements that still have energy potential. To collect this material, chemical treatment of the used fuel isolates or separates uranium and plutonium from the other transuranic elements and the fission products. Once separated, the uranium can be converted to a gas called uranium hexafluoride (UF_6), re-enriched and fabricated into a type of nuclear fuel called uranium oxide (UOX) fuel. Recyclable materials can be further treated and combined with depleted uranium to make a new fuel.

The elements from the used fuel that are not recycled constitute the waste materials from chemical treatment. The volume and radiotoxicity of these waste materials have been reduced significantly. They are vitrified in a highly stable glass form for disposal in a national repository.

Future methods for recycling

U.S. scientists are currently researching advanced treatment methods. Learning from the existing recycling programs in France, the United Kingdom, Russia and Japan, researchers are exploring new technologies to develop advanced treatment methods that will not isolate pure plutonium, in order to reduce perceived proliferation concerns. One method – called UREX+ – uses innovative separation processes to keep the transuranic elements, including plutonium, together. This method would enable the elimination of transuranics in advanced burner reactors. Scientists have demonstrated this process on a laboratory scale, successfully isolating pure uranium and keeping the transuranic elements together. The next step will be to carry out a larger scale demonstration to obtain cost and performance information.

Treatment And Recycling Facilities Are Operated Internationally

The closed fuel cycle offers demonstrated success. Large-scale industrial treatment facilities exist in France, United Kingdom, Russia, and Japan. France's commercial used-fuel treatment facility has processed over 20,000 metric tons of used fuel over the past 20 years and has been certified compliant with the environmental standard, ISO 14001. The international community is working with the U.S. to advance recycling technology.

Recycling Delivers Major Benefits

The global nuclear industry has operated both open and closed fuel cycles over the last fifty years. Recycling offers specific benefits:

- The current recycling method significantly reduces waste volumes by enabling a substantial amount of the used fuel to be treated to produce more energy.
- Recycling produces extremely stable waste products that can be disposed of safely and securely.
- Early treatment of used fuel further optimizes repositories like Yucca Mountain by reducing the heat generation and radiotoxicity of the waste. With additional research and development, engineers will refine this process to optimize Yucca Mountain even further.
- Treatment and recycling of used nuclear fuel means that the U.S. may not need a second repository in this century.
- Treatment and recycling of UOX and transuranics fuel in a fleet of light water reactors can hedge against rising fuel costs.
- Challenges like energy security and climate change require consideration of diverse and creative solutions – nuclear fuel treatment and recycling offer important options to expand our energy mix and meet growing energy needs.

THE FUTURE OF NUCLEAR ENERGY

Nuclear Power: A Key Contributor To U.S. Energy

Nuclear power's operational reliability, cost efficiency and minimal effects on the environment are just a few of the many benefits that will make this energy source an important part of America's future. U.S. nuclear power generating companies currently operate 103 power reactors that produce nearly 20 percent of the nation's electricity. By 2015, an additional four nuclear power units are expected to be in operation, according to the U.S. Energy Information Administration. To ensure that this important energy source remains a part of a balanced energy mix, the Energy Policy Act of 2005 provides incentives for investment in new nuclear power plant construction. These incentives include financial insurance covering delays for the first six units ordered, a production tax credit for the initial eight years' operation of the first 6,000 megawatts of new generation, and loan guarantees for construction costs.

Environmentally Friendly

Many environmental experts now agree that nuclear power has less effect on the environment then other energy sources. Consider these facts:

- Nuclear reactors produce clean energy. They do not emit harmful gases that can cause acid rain or greenhouse gases that can affect climate change.
- Through emissions trading, nuclear power plants help states meet clean-air standards.
- Electricity production by nuclear power prevented 3.32 million tons of sulfur dioxide, 1.05 million tons of nitrogen oxide, and 681.9 million metric tons of carbon dioxide from entering the earth's atmosphere in 2005.
- Unlike any other industry, the nuclear energy industry isolates its used fuel from the environment using U.S. Nuclear Regulatory Commission-approved containers.

Cost Effective

The favorable economics of nuclear power are essential to sustaining or increasing growth in the industry. Resource availability, reliability, predictability, and public policies factor into nuclear affordability. Nuclear power, achieving the lowest production cost of the major sources of electricity, provides a cost effective choice for the American energy mix.

- The most recent data, published in 2005, states that, for the sixth consecutive year, a nuclear power plant's baseload production cost of 1.72 cents per kilowatt-hour was lower than coal, oil and natural gas. (Coal was reported at 2.21 cents, oil 8.09 cents, and natural gas 7.51 cents.)
- Nuclear power avoids costly fossil fuel energy imports and helps ensure the long-term stability of prices.
- In 2004, the University of Chicago completed the first exhaustive study examining the economic competitiveness of nuclear power, considering the internalized expenses such as the cost of managing waste, managing long term repositories and decommissioning the plant at the end of its life. The study shows that the future cost associated with nuclear power production is comparable with gas and coal-based energy generation.

Reliable

- Nuclear power is one of the two major sources of baseload generation, which essentially runs year-round to provide the electricity that powers the American economy.
- Nuclear power plants are designed for endurance and can run for about 540 to 730 days between refueling shutdowns.
- U.S. reactors produced energy 89.7 percent of their running time in 2005. In 2004, the U.S. nuclear power industry set a record with an efficiency rate of 90.5 percent.

Exceptional Performance

The nuclear industry's performance record in the last ten years shows the exceptional operation of nuclear power plants. Since 1996 – the year the last new reactor went into operation – U.S. nuclear power plants have increased the amount of electricity they produce by 17,000 megawatts. This amazing performance is the result of a combination of license renewals, power uprates and shorter, more efficient outages.

- License renewals have been granted for 46 units, and applications for an additional 35 units are pending. These renewed licenses represent about three-quarters of all U.S. reactors.
- Uprates – increases in the power level at which a nuclear plant can operate – have added 4,845 megawatts of electricity to the U.S. electricity supply.
- Strong management of refueling outages have reduced the average time it takes for this key operation from three months to one,

substantially increasing the time that reactors are producing electricity.

- The capacity factor (a measure of the amount of power produced compared with a unit's theoretical maximum) of U.S. nuclear power plants has risen from 66 percent in 1980 to 89.6 percent in 2005.

As a result of these activities, the same number of nuclear plants is producing considerably more electric power.

Supported By U.S. Energy Policy

U.S. energy policy vigorously supports the continued development of safe, clean nuclear power plants. • The U.S. Department of Energy (DOE) established the Nuclear Power 2010 Program, which calls for the addition of 50,000 megawatts of nuclear power generation by 2020 based on estimates of growing electricity demand in the U.S.

- The Energy Policy Act of 2005 renews for 20 years the Price-Anderson Nuclear Industries Indemnity Act, which provides insurance to cover the cost of possible radiological accidents and includes provisions to encourage the development of advanced modular reactors.
- President Bush's Global Nuclear Energy Partnership (GNEP) seeks to develop an international consensus on expanding the use of nuclear power to meet the growing demand for electricity around the world, while creating the systems and technologies that limit proliferation.

Aging Reactors Mean The U.S. May Need Many More Nuclear Power Plants

By 2036, the original licenses for all U.S. nuclear units will expire. Some question if the current nuclear initiatives will be enough to meet the rising energy demands in the U.S. If 20-year extensions were granted for all expiring licenses, in just over 50 years, every unit would have to be replaced, and that is without taking into consideration increased demand. DOE's Energy Information Administration (DOE EIA) estimated at the end of 2005 that 6,000 megawatts of new nuclear capacity would occur between now and 2030, largely as a result of the incentives included in the Energy Policy Act of 2005. The Nuclear Energy Institute, the industry trade organization, maintains that new plant construction will "increase substantially from 2020 to 2030" beyond EIA's projection.

Rising Uranium Costs Make Recycling Economic

Fresh uranium for the once-through fuel cycle is a finite natural resource. Although current supplies meet the needs of the nuclear industry, the quality decreases as more and more uranium is mined. Mining also becomes more difficult as quantities of uranium ore decrease. The limited amounts of this resource can restrict supply and could lead to price increases, which can make recycling used nuclear fuel economically sensible.

Uranium consumption has surpassed the amount mined for the past 20 years. In 2005, production was 108 million pounds U3O8, while consumption was 175 million pounds U3O8. In 2005, the United States produced only 3 million pounds U3O8. Canada was the largest producer at 30 million pounds, followed by Australia at 25 million and Africa at 18 million. Since 2001, uranium prices have climbed from under $10 to $60 (November 2006) per pound U3O8. Between 2003 and 2005, spot market uranium prices increased nearly 260 percent, and near-term supply is limited.

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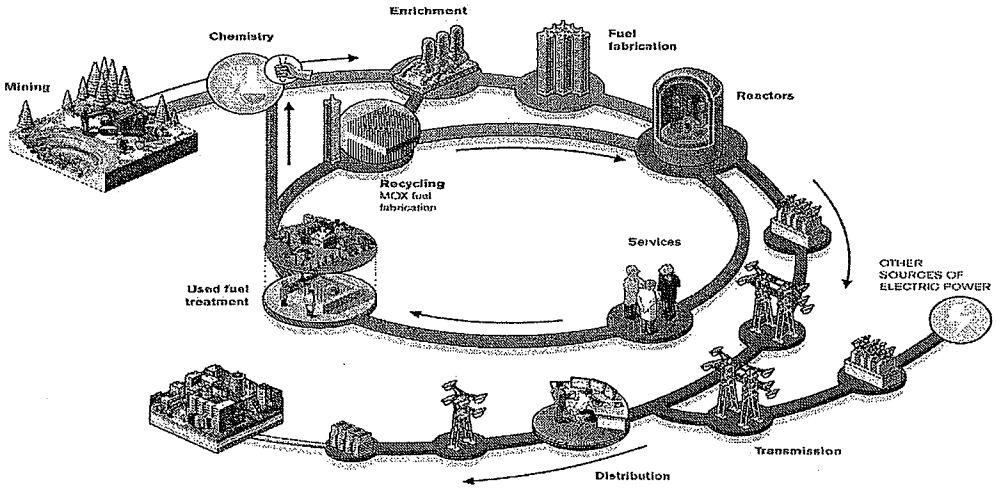

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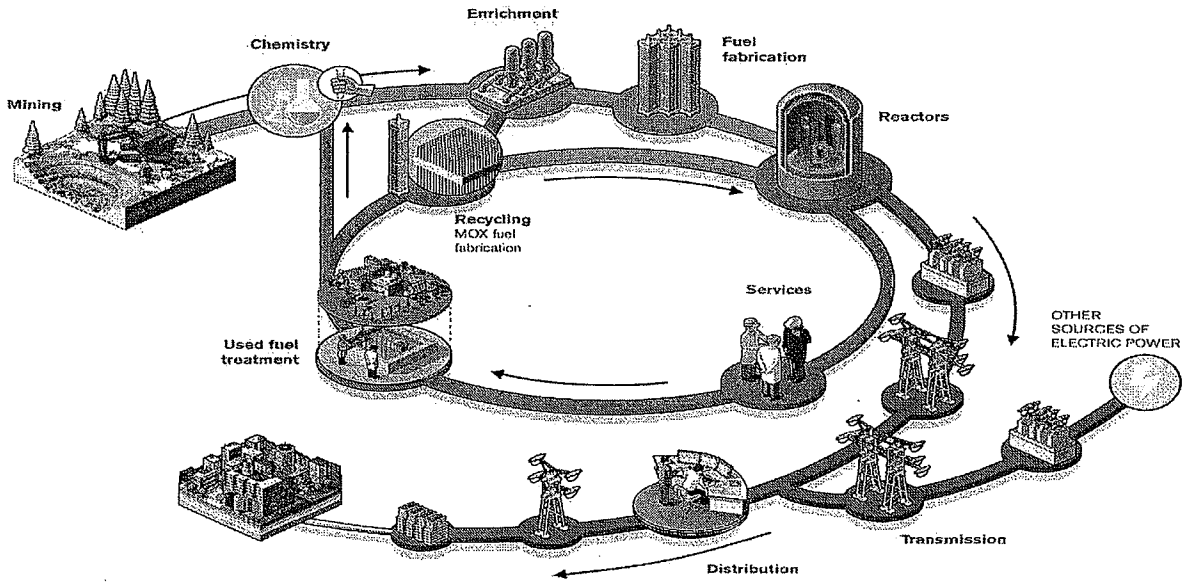

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